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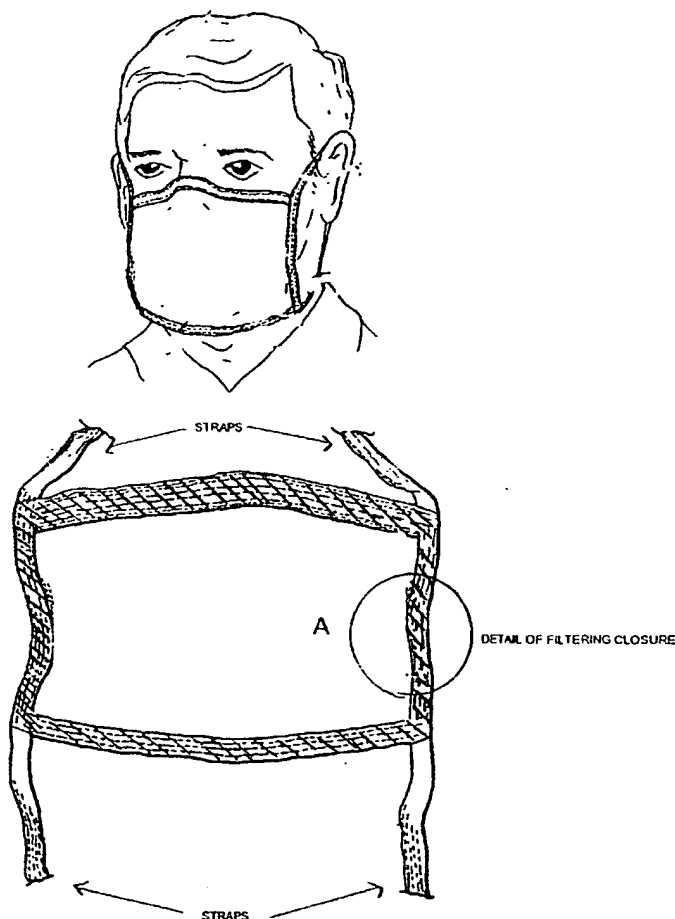
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[Continued on next page]

(54) Title: FACEMASK WITH FILTERING CLOSURE



(57) Abstract: The invention concerns a facemask having a periphery designed to abut a persons face and a tri-dimensional breathable material an active agent incorporated therein, said tri-dimensional breathable material being attached to said periphery of said facemask to form a filtering closure or a facemask having a periphery designed to abut a persons face and a tri-dimensional breathable material having an electrostatic charge thereacross, said tri-dimensional breathable material being attached to said periphery of said facemask to form a filtering enclosure.

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# INTERNATIONAL SEARCH REPORT

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**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 B01D39/16 A62B23/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01D A62B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 641 555 A (OLSON DAVID A ET AL) 24 June 1997 (1997-06-24)	1-5,9-13
Y	column 3, lines 30-38 column 3, line 52 - column 4, line 13 column 5, lines 9-25 column 5, lines 43-55	1-5,9-13
Y	US 4 323 063 A (FISICHELLA JEANNE M) 6 April 1982 (1982-04-06) the whole document	1-5,9-13
Y	US 5 645 057 A (LICKFIELD DEBORAH K ET AL) 8 July 1997 (1997-07-08) column 4, line 52 - column 5, line 8 column 5, lines 19-27	1-5,9-13
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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# INTERNATIONAL SEARCH REPORT

International Application No

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GB 2 077 112 A (METRIC PROD INC) 16 December 1981 (1981-12-16) page 2, right-hand column, line 1 - page 3, left-hand column, line 10; figures 1,3,6	1-5,9-13
A	US 5 639 452 A (MESSIER PIERRE JEAN) 17 June 1997 (1997-06-17) cited in the application abstract	7,8,15, 16
A	US 2 765 788 A (RAICHE PAUL A) 9 October 1956 (1956-10-09) the whole document	1
A	EP 0 241 221 A (MINNESOTA MINING & MFG) 14 October 1987 (1987-10-14) page 3, lines 16-25	1

# INTERNATIONAL SEARCH REPORT

Internal Application No

PCT/IB 03/04543

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5641555	A	24-06-1997	US 5658640 A 19-08-1997
			US 5643507 A 01-07-1997
			US 5658641 A 19-08-1997
			BR 9407288 A 01-10-1996
			CA 2166612 A1 23-02-1995
			DE 69406547 D1 04-12-1997
			DE 69406547 T2 10-06-1998
			EP 0715536 A1 12-06-1996
			JP 9501746 T 18-02-1997
			JP 3380251 B2 24-02-2003
			WO 9505232 A1 23-02-1995
US 4323063	A	06-04-1982	NONE
US 5645057	A	08-07-1997	US 5620785 A 15-04-1997
GB 2077112	A	16-12-1981	DE 3113828 A1 07-01-1982
			FR 2483787 A1 11-12-1981
			IT 1142806 B 15-10-1986
			JP 57066767 A 23-04-1982
			US 4850347 A 25-07-1989
US 5639452	A	17-06-1997	US 2002150623 A1 17-10-2002
			US 2003099606 A1 29-05-2003
			US 2003037673 A1 27-02-2003
			US 2003138395 A1 24-07-2003
			US 6680050 B1 20-01-2004
			US 2001009661 A1 26-07-2001
			US 6045820 A 04-04-2000
			AU 688276 B2 12-03-1998
			AU 4940193 A 12-04-1994
			CA 2140639 A1 31-03-1994
			DE 69320483 D1 24-09-1998
			DE 69320483 T2 22-04-1999
			DK 660668 T3 25-05-1999
			EP 0660668 A1 05-07-1995
			HK 1011259 A1 28-04-2000
			JP 3289831 B2 10-06-2002
			JP 8501300 T 13-02-1996
			AT 169798 T 15-09-1998
			AU 719312 B2 04-05-2000
			AU 7186598 A 06-08-1998
			AU 719355 B2 04-05-2000
			AU 7186698 A 06-08-1998
			WO 9406296 A1 31-03-1994
			EP 0797917 A1 01-10-1997
			EP 0804876 A1 05-11-1997
			ES 2124320 T3 01-02-1999
			JP 2002153548 A 28-05-2002
			JP 2002165827 A 11-06-2002
			JP 2002143860 A 21-05-2002
			JP 2002187805 A 05-07-2002
			JP 2002173430 A 21-06-2002
			JP 2002173431 A 21-06-2002
			NZ 255299 A 20-12-1996
			NZ 299530 A 25-03-1998
			NZ 299531 A 25-03-1998
			NZ 299532 A 25-03-1998

# INTERNATIONAL SEARCH REPORT

International Application No.

PCT/IB 03/04543

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5639452	A	SG 47367 A1 US 5980827 A	17-04-1998 09-11-1999
US 2765788	A	09-10-1956	NONE
EP 0241221	A	14-10-1987	US 4807619 A 28-02-1989 AU 593076 B2 01-02-1990 AU 7049187 A 08-10-1987 BR 8701592 A 26-01-1988 CA 1293094 C 17-12-1991 DE 3770508 D1 11-07-1991 EP 0241221 A1 14-10-1987 ES 2022341 T5 01-12-1991 JP 2002650 C 20-12-1995 JP 7036839 B 26-04-1995 JP 62243568 A 24-10-1987 KR 9604747 B1 13-04-1996 MX 165394 B 10-11-1992 ZA 8702455 A 30-11-1988